SWIFT Contract No. 23295

CFMS Contract No. 442724
T-Number 1002B

STATE OF MINNESOTA
PROFESSIONAL AND TECHNICAL SERVICES
MASTER CONTRACT

This master contract is between the State of Minnesota, acting through its Commissioner of Administration ("State") and American Engineering Testing, Inc., 550 Cleveland Avenue North, St. Paul, MN 55114-1804 ("Contractor").

Recitals

1. Under Minn. Stat. § 15.061 the State is empowered to engage such assistance as deemed necessary.
2. The State is in need of construction testing and inspection services.
3. The Contractor represents that it is duly qualified and agrees to perform all services described in this master contract and performed under work order contracts to the satisfaction of the State.

Master Contract

1 Term of Master Contract

1.1 ***Effective Date***: The date the State obtains all required signatures under Minn. Stat. § 16C.05, subd. 2. **The Contractor must not accept work under this master contract until this master contract is fully executed and the Contractor has been notified by the State's Authorized Representative that it may begin accepting Work Order Contracts.**

1.2 ***Work Order Contracts.*** The term of work under work order contracts issued under this master contract may not extend beyond the expiration date of this master contract.

1.3 ***Expiration Date***: December 31, 2011.

1.4 ***Survival of Terms.*** The following clauses survive the expiration or cancellation of this master contract and all work order contracts: 8. Liability; 9. State Audits; 10. Government Data Practices and Intellectual Property; 13. Publicity and Endorsement; 14. Governing Law, Jurisdiction, and Venue; and 18. Data Disclosure.

2 Scope of Work

The Contractor, who is not a state employee, may be requested to perform any of the following services under individual work order contracts:

The Scope of Work for this master contract may include one or all of the following: Geotechnical, Concrete Testing and Inspection, Masonry Testing and Inspection, Structural Steel Testing and Inspection, Pavement Testing and Inspection, Window/Curtainwall Testing and Inspection, Roofing/Waterproofing Testing and Inspection, Fireproofing/Firestopping Testing and Inspection, Phase I and II Archaeological Resources Investigations, Phase I and II Environmental Investigation and Remediation Services. A complete detailed description of required work will be furnished in each work order contract issued. The categories of service that the Contractor is authorized to provide are attached in Exhibit A, which is incorporated into this agreement.

The Contractor understands that only the receipt of a fully executed work order contract authorizes the Contractor to begin work under this master contract. Any and all effort, expenses, or actions taken before the work order contract is fully executed is not authorized under Minnesota Statutes and is under taken at the sole responsibility and expense of the Contractor. A sample work order contract is attached and incorporated into this master contract as Exhibit B.

The Contractor understands that this master contract is not a guarantee of a work order contract. The State has determined that it may have need for the services under this master contract, but does not commit to spending any money with the Contractor.

3 Time

The Contractor must comply with all the time requirements described in work order contracts. In the performance of work order contracts, time is of the essence.

4 Consideration and Payment

4.1 ***Consideration.*** The State will pay for all services satisfactorily performed by the Contractor for all work order contracts issued under this master contract. The total compensation of all work order contracts may not exceed $1,000,000.00. All costs will follow the Contractor's fee schedule attached as Exhibit C and incorporated into this agreement. The Contractor may revise its fee schedule once per fiscal year and one year after the contract start date, unless the contract is extended, by submitting the new schedule to the State's Authorized Representative. Any new fee schedule will be incorporated and made part of this contract.

Travel Expenses. Reimbursement for travel and subsistence expenses actually and necessarily incurred by the Contractor as a result of any work order contract will be reimbursed in same manner and in no greater amount than provided in the current "Commissioner's Plan" promulgated by the commissioner of Employee Relations. The Contractor will not be reimbursed for travel and subsistence expenses incurred outside Minnesota unless it has received the State's prior written approval for out of state travel. Minnesota will be considered the home state for determining whether travel is out of state.

4.2. ***Payment***

(A) ***Invoices.*** The State will promptly pay the Contractor after the Contractor presents an itemized invoice for the services actually performed and the State's Authorized Representative accepts the invoiced services. Invoices must be submitted timely no more frequently than monthly.

(B) **Retainage.** Under Minn. Stat. § 16C.08, subd. 5(b), no more than 90 percent of the amount due under any work order contract may be paid until the final product of the work order contract has been reviewed by the State's agency head. The balance due will be paid when the State's agency head determines that the Contractor has satisfactorily fulfilled all the terms of the work order contract.

5 Conditions of Payment

All services provided by the Contractor under a work order contract must be performed to the State's satisfaction, as determined at the sole discretion of the State's Authorized Representative and in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations. The Contractor will not receive payment for work found by the State to be unsatisfactory or performed in violation of federal, state, or local law.

6 Authorized Representatives and Project Managers

The State's Authorized Representative for this master contract is Jake Carson, Contracts Coordinator, 651.201.2372, jake.carson@state.mn.us, or his/her successor, and has the responsibility to monitor the Contractor's performance.

The State's Project Manager will be identified in each work order contract.

The Contractor's Authorized Representative is Thomas P. Venema, PE, 651.659.1369, tvenema@amengtest.com. If the Contractor's Authorized Representative changes at any time during this master contract, the Contractor must immediately notify the State.

The Contractor's Project Manager will be identified in each work order contract.

7 Assignment, Amendments, Waiver, and Contract Complete

7.1 ***Assignment.*** The Contractor may neither assign nor transfer any rights or obligations under this master contract or any work order contract without the prior consent of the State and a fully executed Assignment Agreement, executed and approved by the same parties who executed and approved this master contract, or their successors in office.

7.2 ***Amendments.*** Any amendment to this master contract or any work order contract must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original contract, or their successors in office.

7.3 ***Waiver.*** If the State fails to enforce any provision of this master contract or any work order contract, that failure does not waive the provision or its right to enforce it.

7.4 ***Contract Complete.*** This master contract and any work order contract contain all negotiations and agreements between the State and the Contractor. No other understanding regarding this master contract or work order contract, whether written or oral, may be used to bind either party.

8 Liability

The Contractor must indemnify, save, and hold the State, its agents, and employees harmless from any claims or causes of action, including attorney's fees incurred by the State, arising from the performance of this master contract or work order contract by the Contractor or the Contractor's agents or employees. This clause will not be construed to bar any legal remedies the Contractor may have for the State's failure to fulfill its obligations under this master contract or any work order contract.

9 State Audits

Under Minn. Stat. § 16C.05, subd. 5, the Contractor's books, records, documents, and accounting procedures and practices relevant to any work order contract are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this master contract.

10 Government Data Practices and Intellectual Property

10.1. ***Government Data Practices.*** The Contractor and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under any work order contract, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Contractor under the work order contract. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this clause by either the Contractor or the State.

If the Contractor receives a request to release the data referred to in this Clause, the Contractor must immediately notify the State. The State will give the Contractor instructions concerning the release of the data to the requesting party before the data is released.

10.2. ***Intellectual Property Rights***

(A) *Intellectual Property Rights.* The State owns all rights, title, and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trademarks, and service marks in the Works and Documents *created and paid for under work order contracts*. Works means all inventions, improvements, discoveries (whether or not patentable), databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, and disks conceived, reduced to practice, created or originated by the Contractor, its employees, agents, and subcontractors, either individually or jointly with others in the performance of this master contract or any work order contract. Works includes "Documents." Documents are the originals of any databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, disks, or other materials, whether in tangible or electronic forms, prepared by the Contractor, its employees, agents, or subcontractors, in the performance of a work order contract. The Documents will be the exclusive property of the State and all such Documents must be immediately returned to the State by the Contractor upon completion or cancellation of the work order contract. To the extent possible, those Works eligible for copyright protection under the United States Copyright Act will be deemed to be "works made for hire." The Contractor assigns all right, title, and interest it may have in the Works and the Documents to the State. The Contractor must, at the request of the State, execute all papers and perform all other acts necessary to transfer or record the State's ownership interest in the Works and Documents.

(B) *Obligations*

1. *Notification.* Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived for the first time or actually or constructively reduced to practice by the Contractor, including its employees and subcontractors, in the performance of the work order contract, the Contractor

will immediately give the State's Authorized Representative written notice thereof, and must promptly furnish the Authorized Representative with complete information and/or disclosure thereon.

2. *Representation.* The Contractor must perform all acts, and take all steps necessary to ensure that all intellectual property rights in the Works and Documents are the sole property of the State, and that neither Contractor nor its employees, agents, or subcontractors retain any interest in and to the Works and Documents. The Contractor represents and warrants that the Works and Documents do not and will not infringe upon any intellectual property rights of other persons or entities. Notwithstanding Clause 8, the Contractor will indemnify; defend, to the extent permitted by the Attorney General; and hold harmless the State, at the Contractor's expense, from any action or claim brought against the State to the extent that it is based on a claim that all or part of the Works or Documents infringe upon the intellectual property rights of others. The Contractor will be responsible for payment of any and all such claims, demands, obligations, liabilities, costs, and damages, including but not limited to, attorney fees. If such a claim or action arises, or in the Contractor's or the State's opinion is likely to arise, the Contractor must, at the State's discretion, either procure for the State the right or license to use the intellectual property rights at issue or replace or modify the allegedly infringing Works or Documents as necessary and appropriate to obviate the infringement claim. This remedy of the State will be in addition to and not exclusive of other remedies provided by law.

11 Affirmative Action

[Affirmative Action Requirements for Contracts in Excess of $100,000 if the Contractor has More than 40 Full-time Employees in Minnesota or its Principal Place of Business]

The State intends to carry out its responsibility for requiring affirmative action by its Contractors.

11.1 ***Covered Contracts and Contractors.*** If the Contract exceeds $100,000 and the contractor employed more than 40 full-time employees on a single working day during the previous 12 months in Minnesota or in the state where it has its principle place of business, then the Contractor must comply with the requirements of Minn. Stat. § 363A.36 and Minn. R. Parts 5000.3400-5000.3600. A contractor covered by Minn. Stat. § 363A.36 because it employed more than 40 full-time employees in another state and does not have a certificate of compliance, must certify that it is in compliance with federal affirmative action requirements.

11.2 ***Minn. Stat. § 363A.36.*** Minn. Stat. § 363A.36 requires the Contractor to have an affirmative action plan for the employment of minority persons, women, and qualified disabled individuals approved by the Minnesota Commissioner of Human Rights ("Commissioner") as indicated by a certificate of compliance. The law addresses suspension or revocation of a certificate of compliance and contract consequences in that event. A contract awarded without a certificate of compliance may be voided.

11.3 ***Minn. R. Parts 5000.3400-5000.3600.***

a. *General.* Minn. R. Parts 5000.3400-5000.3600 implement Minn. Stat. § 363A.36. These rules include, but are not limited to, criteria for contents, approval, and implementation of affirmative action plans; procedures for issuing certificates of compliance and criteria for determining a contractor's compliance status; procedures for addressing deficiencies, sanctions, and notice and hearing; annual compliance reports; procedures for compliance review; and contract consequences for non-compliance. The specific criteria for approval or rejection of an affirmative action plan are contained in various provisions of Minn. R. Parts 5000.3400-5000.3600 including, but not limited to, parts 5000.3420-5000.3500 and 5000.3552-5000.3559.

b. *Disabled Workers.* The Contractor must comply with the following affirmative action requirements for disabled workers.

1. The Contractor must not discriminate against any employee or applicant for employment because of physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled persons without discrimination based upon their physical or mental disability in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

2. The Contractor agrees to comply with the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.
3. In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with Minnesota Statutes Section 363A.36, and the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.
4. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the commissioner of the Minnesota Department of Human Rights. Such notices must state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled employees and applicants for employment, and the rights of applicants and employees.
5. The Contractor must notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the contractor is bound by the terms of Minnesota Statutes Section 363A.36, of the Minnesota Human Rights Act and is committed to take affirmative action to employ and advance in employment physically and mentally disabled persons.

c. *Consequences*. The consequences for the Contractor's failure to implement its affirmative action plan or make a good faith effort to do so include, but are not limited to, suspension or revocation of a certificate of compliance by the Commissioner, refusal by the Commissioner to approve subsequent plans, and termination of all or part of this contract by the Commissioner or the State.

d. *Certification*. The Contractor hereby certifies that it is in compliance with the requirements of Minn. Stat. § 363A.36 and Minn. R. Parts 5000.3400-5000.3600 and is aware of the consequences for noncompliance.

12 Workers' Compensation and Other Insurance

Contractor certifies that it is in compliance with all insurance requirements specified in the solicitation document relevant to this Contract.

Further, the Contractor certifies that it is in compliance with Minn. Stat. § 176.181, subd. 2, pertaining to workers' compensation insurance coverage. The Contractor's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees or agents and any claims made by any third party as a consequence of any act or omission on the part of these employees or agents are in no way the State's obligation or responsibility.

13 Publicity and Endorsement

13.1 ***Publicity***. Any publicity regarding the subject matter of a work order contract must identify the State as the sponsoring agency and must not be released without prior written approval from the State's Authorized Representative. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Contractor individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from a work order contract.

13.2 ***Endorsement***. The Contractor must not claim that the State endorses its products or services.

14 Governing Law, Jurisdiction, and Venue

Minnesota law, without regard to its choice-of-law provisions, governs this master contract and all work order contracts. Venue for all legal proceedings out of this master contract and/or any work order contracts, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

15 Payment to Subcontractors

(If applicable) As required by Minn. Stat. § 16A.1245, the prime contractor must pay all subcontractors, less any retainage, within 10 calendar days of the prime contractor's receipt of payment from the State for undisputed

services provided by the subcontractor(s) and must pay interest at the rate of one and one-half percent per month or any part of a month to the subcontractor(s) on any undisputed amount not paid on time to the subcontractor(s).

16 **Minn. Stat. § 181.59** The vendor will comply with the provisions of Minn. Stat. § 181.59 which requires:

Every contract for or on behalf of the state of Minnesota, or any county, city, town, township, school, school district, or any other district in the state, for materials, supplies, or construction shall contain provisions by which the contractor agrees: (1) That, in the hiring of common or skilled labor for the performance of any work under any contract, or any subcontract, no contractor, material supplier, or vendor, shall, by reason of race, creed, or color, discriminate against the person or persons who are citizens of the United States or resident aliens who are qualified and available to perform the work to which the employment relates; (2) That no contractor, material supplier, or vendor, shall, in any manner, discriminate against, or intimidate, or prevent the employment of any person or persons identified in clause (1) of this section, or on being hired, prevent, or conspire to prevent, the person or persons from the performance of work under any contract on account of race, creed, or color; (3) That a violation of this section is a misdemeanor; and (4) That this contract may be canceled or terminated by the state, county, city, town, school board, or any other person authorized to grant the contracts for employment, and all money due, or to become due under the contract, may be forfeited for a second or any subsequent violation of the terms or conditions of this contract.

17 **Termination**

17.1 ***Termination by the State.*** The State or commissioner of Administration may cancel this master contract and any work order contracts at any time, with or without cause, upon 30 days' written notice to the Contractor. Upon termination, the Contractor will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

17.2 ***Termination for Insufficient Funding.*** The State may immediately terminate this master contract and any work order contract if it does not obtain funding from the Minnesota legislature or other funding source; or if funding cannot be continued at a level sufficient to allow for the payment of the services covered here. Termination must be by written or fax notice to the Contractor. The State is not obligated to pay for any services that are provided after notice and effective date of termination. However, the Contractor will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed to the extent that funds are available. The State will not be assessed any penalty if the master contract or work order is terminated because of the decision of the Minnesota legislature or other funding source, not to appropriate funds. The State must provide the Contractor notice of the lack of funding within a reasonable time of the State's receiving that notice.

18 **Data Disclosure**

Under Minn. Stat. § 270.66, and other applicable law, the Contractor consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and state tax agencies and state personnel involved in the payment of state obligations. These identification numbers may be used in the enforcement of federal and state tax laws which could result in action requiring the Contractor to file state tax returns and pay delinquent state tax liabilities, if any.

19 **Foreign Outsourcing**

Contractor agrees that the disclosures and certifications made in its Location of Service Disclosure and Certification Form submitted with its proposal are true, accurate and incorporated into this contract by reference.

20 **Employee Status**

By order of the Governor's Executive Order 08-01, if this contract, including any extension options, is or could be in excess of $50,000, Contractor certifies that it and its subcontractors:

1. Comply with the Immigration Reform and Control Act of 1986 (U.S.C. 1101 et. seq.) in relation to all employees performing work in the United States and do not knowingly employ persons in violation of the United States' immigrations laws; and

2. By the date of the performance of services under this contract, Contractor and all its subcontractors have implemented or are in the process of implementing the *E-Verify* program for all newly hired employees in the United States who will perform work on behalf of the State of Minnesota.

Contractor shall obtain certifications of compliance with this section from all subcontractors who will participate in the performance of this contract. Subcontractor certifications shall be maintained by Contractor and made available to the state upon request. If Contractor or its subcontractors are not in compliance with 1 or 2 above or have not begun or implemented the *E-Verify* program for all newly hired employees performing work under the contract, the state reserves the right to determine what action it may take including but not limited to, cancelling the contract and/or suspending or debarring the contractor from state purchasing.

1. CONTRACTOR

The Contractor certifies that the appropriate person(s) have executed the contract on behalf of the Contractor as required by applicable articles or bylaws.

By: Thomas P Vimura

Title: Vice President

Date: 1-15-10

2. STATE AGENCY

By: _____
(with delegated authority)

Title: _____

Date: 1/21/10

3. COMMISSIONER OF ADMINISTRATION

As delegated to Materials Management Division

By: _____

Date: Jan. 22, 2010

ONSTRUCTION TESTING AND INSPECTION SERVICES RFP- EXHIBIT A

Name of Firm American Engineering Testing, Inc. Proposal
ated December 11, 2009

Responder shall indicate the categories of tests and inspections for which the firm is qualified:

Geotechnical Services

- ☒ Pre-construction Soil Exploration and Testing
- ☐ Percolation Tests, Recommendations for Septic Systems
- ☒ Foundation and Pavement Design Recommendations
- ☒ Observation and Testing of Existing Soils during Excavation and Grading
- ☒ Laboratory Testing of Proposed Fill Material
- ☒ Observation and Testing of Fill and Backfill for Moisture, Compaction
- ☒ Other Investigation of Building Distress Foundation Settlement, Foundation Distress Repair, Observation of Driven or Helical Pile Installation, Double Ring Infiltrometer Testing, Observation of Soil Tieback/Retention System, Observation of Bedrock During Excavation, Dynamic Pile Driving Analysis

Concrete Testing and Inspection Services

- ☒ Concrete, Grout Mix Design
- ☒ Observe and Document Formwork Construction
- ☒ Observe and Document Placement of Reinforcing Steel
- ☒ Slump, Temperature, and Air Entrainment Tests of Fresh Concrete
- ☒ Cast, Cure and Test Concrete Cylinders for Compressive Strength
- ☒ Other Observation of Post Tensioned Concrete

Masonry Testing and Inspection Services

- ☒ Mortar, Masonry Fill Mix Design
- ☒ Laboratory Tests on Masonry Prisms
- ☒ Laboratory Test of Mortar and Core-fill for Compressive Strength and Bond Strength
- ☒ Special Inspection of Structural Masonry Construction (Continuous _x_ / Periodic _x_)
- ☐ Other_____

Structural Steel Testing and Inspection

- ☒ Strength Testing of Embedded Bolts
- ☒ Observe and Test Welded and Bolted Connections during Structural Steel and Precast Concrete Erection
- ☒ Observe and Test Welding and Screw Fastening during Metal Deck Installation
- ☒ Other Observe and Test Welded and Bolted Connections during Structural Steel Fabrication

Pavement Testing and Inspection

- ☒ Observe and Test Rolling Operations on Subgrade Soils
- ☒ Field and Laboratory Tests on Aggregate Base
- ☒ Field and Laboratory Tests during Bituminous Paving (Continuous____/Periodic____)
- ☐ Other_____

Fireproofing / Firestopping Testing and Inspection

- ☒ Test Installed Spray-on Fireproofing for Thickness, Density, Adhesion
- ☒ Observe and Document Installation of Fire-Resistive Joint Systems
- ☐ Other_____

Phase I Archaeological Resources Investigation

- ☐ Determine whether cultural resources are present within the project area, and whether these resources are potentially eligible for the National Register of Historic Places (NRHP).
- ☐ All field methods and reporting of the Phase I Archaeological Resources Investigation will comply with the Minnesota State Historic Preservation Office guidelines as well as federal guidelines, and will meet the requirements of the Secretary of the Interior's Standards.
- ☐ If an archaeological site is found, wash, analyze, and catalogue all recovered artifacts. Laboratory and curation procedures will follow appropriate standard guidelines
- ☐ Curate the artifacts at the Minnesota Historical Society under Contractor's curation agreement. Contractor's lab director will ensure that the cataloging and curation meet the requirements of Minnesota's repository guidelines.
- ☐ Other_____

Phase II Archaeological Resources Investigation

- ☐ Excavate and document designated features in accordance with Minnesota State Historic Preservation Office guidelines as well as federal guidelines, and will meet the requirements of the Secretary of the Interior's Standards.
- ☐ Record excavation data on standardized forms and in the log book of the principal investigator including location and methods of testing; the numbers, types, and locations of recovered cultural materials; the depth and thickness of excavated soil layers; soil textures and inclusions; and soil color according to Munsell color charts.
- ☐ Take up to 5 radiocarbon samples if suitable materials are encountered and complete standard radiometric analysis.
- ☐ Clean, catalogue, label and bag all recovered artifacts in accordance with professional standards and submit recovered materials to the Minnesota Historical Society for curation.
- ☐ Other_____

Phase I Environmental Investigation

- ☒ Complete a Phase I Environmental Site Assessment in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program Guidance Document #8.
- ☒ Conduct a visual (existing structures) assessment for typical suspect asbestos containing materials (ACM).
- ☒ Assess the presence of PCBs at the subject site.
- ☒ Collect and evaluate available historical information to determine if evidence exists indicating an existing release, a past release, or a material threat of a release of hazardous substances, hazardous materials or petroleum products to the Property.
- ☒ Other Environmental Grant Writing, EAWs Lead Based Paint Investigations, Mold Assessments, Water Well Location Services

Phase II Environmental Investigation

- ☒ Prepare a workplan the Phase II Investigation in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and

Cleanup Program Guidance Document #11 to determine if potential sources of contamination identified during the Phase I Investigation are causing a release or threatened release of hazardous substances, contaminants or pollutants to the soil, surface water and ground water on the property in question.

☒ Prepare a site safety and contingency plan in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program Guidance Document #10.

☒ Conduct Phase II Environmental Investigation in accordance with approved work plan and in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program Guidance Documents.

☒ Other Geoprobe Subsurface Investigations, Air Quality Monitoring and Permitting, Wastewater Sampling, Soil and Groundwater Sampling, Soil Vapor Investigations, Wetland Delineations, Stormwater Infiltration Assessments, Stormwater Dredge Sampling, UST Assessments, Petrofund Limited Site Investigations and Femedial Investigations, Ag-Chemical Remedial Investigations

Remediation Services

☒ Prepare and, upon approval, implement the Response Action Plan (RAP) and in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program Guidance Documents.

☒ Following completion of the RAP, prepare an Implementation Report for submission to the MPCA for review and approval in a manner consistent with the American Society of Testing and Materials standard for a Phase I ESA and the Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program Guidance Documents.

☒ Other Brownfields Cleanups, Feasibility Studies, Asbestos Emission Control Plans, Soil Management Plans, Remediation Bid Specifications, Brownfields Cleanup Grant Writing, MN Petrofund Reimbursement Applications, MPCA Drycleaner Fund Reimbursement Applications, MDA Ag-Chemical Reimbursement Applications, EPA Quality Assurance Project Plans

Comments:

Window/Curtainwall

☒ Window/Curtainwall Testing and Inspection Services

☐ Other_____

Roofing/Waterproofing

☒ Roofing/Waterproofing Testing and Inspection Services

☐ Other_____

Exhibit B

SAMPLE STATE OF MINNESOTA
PROFESSIONAL AND TECHNICAL SERVICES
WORK ORDER CONTRACT

This work order contract is between the State of Minnesota, acting through its _____ ("State") and _____("Contractor"). This work order contract is issued under the authority of Master Contract T-Number _____, CFMS Number _____, and is subject to all provisions of the master contract which is incorporated by reference.

Work Order Contract

1 **Term of Contract**

1.1 ***Effective date***:_____, or the date the State obtains all required signatures under Minn. Stat. § 16C.05, subd. 2, whichever is later.

The Contractor must not begin work under this contract until this contract is fully executed and the Contractor has been notified by the State's Authorized Representative to begin the work.

1.2 ***Expiration date***: _____, or until all obligations have been satisfactorily fulfilled, whichever occurs first.

2 **Contractor's Duties**

The Contractor, who is not a state employee, will:

3 **Consideration and Payment**

3.1 ***Consideration***. The State will pay for all services performed by the Contractor under this work order contract as follows:

(A) ***Compensation.*** The Contractor will be paid ____.

(B) ***Travel Expenses.*** Reimbursement for travel and subsistence expenses actually and necessarily incurred by the Contractor as a result of this work order contract will not exceed $_____.

(C) ***Total Obligation.*** The total obligation of the State for all compensation and reimbursements to the Contractor under this work order contract will not exceed $_____.

3.2. ***Invoices.*** The State will promptly pay the Contractor after the Contractor presents an itemized invoice for the services actually performed and the State's Authorized Representative accepts the invoiced services.. Invoices must be submitted timely and according to the following schedule:

4 **Project Managers**

The State's Project Manager is _____. The State's Authorized Representative will certify acceptance on each invoice submitted for payment.

The Contractor's Project Manager is _____. If the Contractor's Project Manager changes at any time during this work order contract, the Contractor must immediately notify the State.

SIGNATURES AS REQUIRED BY THE STATE.

Exhibit C

American Engineering Testing, Inc.

STATE OF MN CONSTRUCTION TESTING AND INSPECTION MASTER CONTRACT 2010 FEE SCHEDULE

	Description	Cost Code	Unit	Rate
I.	Personnel Rates			
	A. Administrative Assistant	--	per hour	$56.00
	B. Engineering/Environmental Technician I/NDT Level I	--	per hour	62.00
	C. Draftsperson	--	per hour	69.00
	D. Engineering/Environmental Technician II/NDT Level II	--	per hour	73.00
	E. Drill Technician/Geotechnical Lab Technician	--	per hour	82.00
	F. Technician Level II CWI/ICC	--	per hour	82.00
	G. Senior Engineering/Environmental Technician III/NDT Level III	--	per hour	87.00
	H. Engineering Assistant	--	per hour	98.00
	I. Engineer I, Geologist I, Scientist I	--	per hour	105.00
	J. Senior Engineering Assistant	--	per hour	110.00
	K. Engineer II, Geologist II, Scientist II	--	per hour	120.00
	L. Senior Engineer, Geologist, Petrographer, Scientist	--	per hour	133.00
	M. Principal Engineer, Geologist, Scientist	--	per hour	160.00
	N. Principal of Firm	--	per hour	170.00
	O. Litigation Preparation	--	per hour	210.00
	P. Deposition or Court Time (4-hour minimum)	--	per hour	265.00
II.	Vehicle Mileage (personnel time and rental extra)			
	A. Personal Automobile/Truck	--	per mile	$0.70
	B. ½ or ¾-ton Auxiliary Truck/Van	--	per mile	0.90
	C. Truck with Coring Equipment (Concrete/Bituminous)	--	per mile	1.00
	D. 1 or 2-ton Rig Auxiliary Truck	--	per mile	1.05
	E. Truck with Warning Sign/Crash Trailer	--	per mile	1.10
	F. 1-ton Truck with Drill Rig; Dark Room Truck	--	per mile	1.10
	G. 1½ to 2½-ton Truck with Drill Rig	--	per mile	1.25
	H. 20-Ton CPT Truck Rig	--	per mile	1.50
	I. Tractor/Lowboy Trailer	--	per mile	1.70

Description	Cost Code	Unit	Rate
III. Geotechnical Equipment Rental/Services			
A. Drill Rig Rental			
1. Rotary Drill on 4WD 1-ton Truck	--	per hour	$62.00
2. Rotary Drill on 2WD 1½ to 2½-ton Truck	--	per hour	72.00
3. Rotary Drill on 4WD 1½ to 2½-ton Truck	--	per hour	74.00
4. Rotary Drill on All-Terrain Vehicle	--	per hour	102.00
5. Portable, Non-rotary Rig	--	per hour	72.00
B. Rig Auxiliary/Specialty Vehicle Rental			
1. Trailer	--	per hour	8.00
2. ½ or ¾-ton Auxiliary Truck	--	per hour	15.50
3. 1 or 2-ton Auxiliary Truck	--	per hour	20.00
4. Truck with Warning Sign/Crash Trailer	--	per hour	25.00
5. Truck with Coring Equipment (Concrete/Bituminous)	--	per hour	40.00
C. Cone (CPT) Rig/Equipment Rental			
1. 20-Ton CPT Rig, Truck or ATV	--	per hour	128.00
2. Electronic Cone or Piezocone w/computer	3310	per hour	37.00
3. Soil Sampler	3250	per hour	3.00
4. Water Sampler	3252	per hour	20.00
D. Pavement Testing Equipment Rental			
1. Falling Weight Deflectometer, including Truck	3253	per hour	150.00
2. Light Weight Deflectometer	3255	per hour	50.00
E. Geotechnical Equipment Rental			
1. Field Vane Shear	3305	per day	300.00
2. Inclinometer Reading Equipment	3315	per day	300.00
3. Pneumatic Transducer Reading Equipment (pore pressure, settlement or earth pressure)	3320	per day	150.00
4. Bore Hole Permeability			
a) Open End Casing Method	3325	per day	120.00
b) HQ Wireline Packer	3326	per day	300.00
5. Borehole Pressuremeter	3330	per hour	55.00
6. Iowa Borehole Shear Tester	3335	per day	310.00
7. Double Ring Infiltrometer	3340	per day	235.00
8. GPS Mapping System Equipment	3345	per hour	13.00
9. Pile Driving Analyzer (PDA)	3350	per day	680.00
10. Calibrated SPT Rod	3352	per day	175.00
11. Field Electrical Resistivity Equipment (Wennar 4-Pin)	3353	per day	210.00
12. Field Seismic Refraction Equipment (ReMi)	3354	per day	370.00
F. Geotechnical Software Rental			
1. Finite Element (seepage or soil deformation)	3254	per hour	55.00
2. CAPWAP	3256	per hour	30.00
3. Wave Equation (WEAP)	3258	per hour	15.00
4. LPILE or Group	3260	per hour	15.00
5. Slope Stability (ReSSA)	3262	per hour	15.00
6. Stabilized Earth Slopes and Walls	3264	per hour	15.00
7. Settlement (FoSSA)	3265	per hour	15.00
8. SHAFT	3266	per hour	15.00
G. Bit Wear			
1. Diamond Bit - Sedimentary Rock			
a) B, NQ	1025	per foot	10.00
b) HQ	1026	per foot	12.00

Description	Cost Code	Unit	Rate
2. Diamond Bit - Metamorphic and Igneous			
a) B, NQ	1030	per foot	17.00
b) HQ	1031	per foot	20.00
IV. Environmental Equipment Rental/Services			
A. Air Monitoring Equipment Rental			
1. Photoionization Detector	3005	per day	110.00
2. Flame Ionization Detector	3010	per day	125.00
3. LEL Meter	3040	per day	50.00
4. Landtec Methane Meter	3048	per day	175.00
5. Gas Meter (LEL, O_2, H_2S, CO)	3046	per day	95.00
6. Methane Meter	3045	per day	50.00
7. Air Velocity Meter	3050	per day	50.00
8. Air Flow Measurement Instrumentation	3130	per day	100.00
9. FIA Monitoring Station	3131	per day	300.00
10. Impinger/Meter Console Assembly	3132	per day	200.00
11. 0_2/$C0_2$/CO Analyzers	3133	per day	300.00
12. Isokinetic Sampling Train	3134	per day	350.00
13. Vacuum Sampler Assembly	3135	per day	75.00
14. Heated Sample Line Assembly	3136	per day	120.00
15. Orsat Analyzer	3154	per day	100.00
16. 40L Tedlar Bag	3155	each	25.00
17. GasTech OVM	3126	per day	40.00
18. GasTech TGD	3128	per day	40.00
19. Three-Dimensional Pitot Tube Assembly	3159	per day	200.00
20. NO_x Analyzer	3161	per day	300.00
21. SO_2 Analyzer	3163	per day	300.00
22. Sample Gas Conditioner	3162	per day	100.00
23. Extractive FTIR Analyzer	3024	quoted per project	-
24. Gas Chromatograph	3164	quoted per project	-
B. Groundwater Monitoring Equipment Rental			
1. Dissolved Oxygen Meter	3020	per day	50.00
2. pH Meter	3025	per day	25.00
3. Conductivity Meter	3030	per day	25.00
4. Redox Potential Meter	3031	per day	25.00
5. Bailers-Polypropylene	3065	each	15.00
6. Bailers-Teflon	3066	each	30.00
7. Groundwater Modeling Software	3075	per hour	25.00
8. Water Level Probe	3078	per day	50.00
9. Oil-Water Interface Sensor	3080	per day	90.00
10. Well Rate of Recovery Equipment	3085	per day	150.00
11. 2" Pump Assembly	3111	per day	100.00
12. Peristaltic Assembly	3113	per day	60.00
13. Stabilization Assembly	3114	per day	90.00
14. Turbidity Meter	3129	per day	25.00
15. Groundwater Filter - Gelman Inline	3152	each	15.00
16. Groundwater Filter - Nalgene	3153	each	10.00
17. HydroPunch	3160	per day	250.00
C. Water and Wastewater Monitoring Equipment Rental			
1. ISCO Autosampler	3115	per day	55.00
2. Refrigerated ISCO Autosampler	3109	per day	100.00

Description	Cost Code	Unit	Rate
3. Liquid Level Recorder	3116	per day	50.00
4. Flow Meter	3117	per day	85.00
5. Confined Space Entry Equipment	3118	per day	140.00
6. Weir Materials	3119	per day	40.00
7. Recording pH Meter	3124	per day	45.00
8. Kemmerer Type Sampler	3120	per day	45.00
9. Chlorine Residual Meter	3125	per day	45.00
10. DR2000 Spectrophotometer	3127	per day	85.00
D. Soil Sampling and Support Equipment Rental			
1. Direct Push Sampling System (Geoprobe)	--	per hour	95.00
2. XRF Analyzer	3012	per day	375.00
3. Soil Auger Assembly	3121	per day	50.00
4. Power Auger	3123	per day	65.00
5. Site Trailer	3110	per day	85.00
6. Level A, B, or C Protective Gear	--	quoted per project	-
7. Vacuum Blower	3069	quoted per project	-
8. Coliwassa Sampler	3060	each	15.00
9. Steam Cleaning Service (includes rental)			
a) Drill Rig/Tools	3088	per clean	315.00
b) Down Hole Drill Tools Only	3089	per clean	210.00
10. Steam Cleaner	3090	per day	140.00
11. Portable Generator (220 volt)	--	per day	25.00
12. Magnetic Locator	3158	per day	25.00
E. Industrial Hygiene Equipment Rental			
1. Sampling Pump, 28.3 liter	3370	per day	50.00
2. Sampling Pump, High Flow	3372	per day	100.00
3. Sampling Pump, Dragger	3374	per day	25.00
4. Protimeter Moisture Monitor	3376	per day	100.00
5. Bore Scope	3396	per day	25.00
6. Wet Wall Detector	3397	per day	25.00
V. Laboratory Tests of Soil			
A. Water Content	1500	per test	13.00
B. Dry Density (includes water content)	1505	per test	50.00
C. Atterberg Limits (ASTM:D4318)			
1. Plasticity Index	1510	per test	100.00
2. Liquid Limit or Plastic Limit Separately	1511	per test	75.00
D. Shrinkage Limit (ASTM:D427)	1515	per test	95.00
E. Sieve Analysis (includes -#200 determination)	1520	per test	88.00
F. Hydrometer Analysis (sieve analysis included)	1525	per test	235.00
G. Specific Gravity (ASTM:D854)			
1. Mineral Soil	1530	per test	125.00
2. Organic Soil	1531	per test	140.00
H. Hand Penetrometer/Torvane	1535	per test	10.00
I. Unconfined Compression	1540	per test	76.00
J. Consolidation - Primary Consolidation Curve up to 32 tsf (ASTM:D2435)	1545	per test	430.00
K. Direct Shear Test	1550	quoted per project	-
L. Triaxial Compression Test			
1. Unconsolidated-Undrained	1555	per point	190.00
2. Consolidated-Undrained	1556	per point	280.00

Description	Cost Code	Unit	Rate
3. Consolidated-Drained	1557	per point	350.00
M. Permeability Tests			
1. Rigid Wall	1560	per test	240.00
2. Flexible Wall	1563	per test	340.00
N. Tests of Expansive Soils	1565	per test	125.00
O. Electrical Resistivity	1570	per test	85.00
P. Organic Content of Soil	1575	per test	55.00
Q. Topsoil Borrow Test (Mn/DOT 3877)	1580	per test	340.00
R. Soil pH	1585	per test	50.00
S. Soil Oxidation - Reduction Potential	1590	per test	65.00
T. R-value (Hveem Stabilometer)	1595	per test	360.00
U. California Bearing Ratio (excludes Proctor, includes three molded densities at one moisture content)			
1. Granular	1600	per test	560.00
2. Cohesive	1601	per test	630.00
V. Sand Equivalent Value (three readings averaged)	1605	per test	180.00
W. Thermal Resistivity (ASTM:D5334 and IEEE 442) (Remolded Specimens, includes Standard Proctor)			
1. As Received and Oven Dried (2 points)	1621	per test	910.00
2. Dry Out Curve (4 points)	1622	per test	1130.00
X. Miscellaneous			
1. Sample Preparation/Thin Wall Extrusion	Labor	See Section I	-
2. Sample Storage	1615	quoted per project	-
3. Specialty Testing, including Rock Cores	1620	quoted per project	-
VI. Earthwork Observation and Testing			
A. Field Engineering Services	Labor	See I and II	-
1. Trip Charge (Time and Mileage)	Labor	See I and II	-
2. Dynamic Cone Penetrometer	1701	per day	112.00
3. Dynamic Cone Penetrometer (non Mn/DOT)	1702	per test	25.00
4. Dynamic Cone Penetrometer (Mn/DOT)	1703	per test	50.00
5. Dial Indicator Gauges	1706	per day	35.00
6. ½ or ¾ ton truck	1707	per trip	15.00
B. Field Density Tests, Trip Basis			
1. Trip Charge (Time and Mileage)	Labor	See I and II	-
2. Test Charge, Nuclear and Sand-Cone (at AET's option)	1700	per test	26.00
3. Test Charge, Sand-Cone (when required by client)	1705	per test	47.00
4. Test Taken on Weekends or Holidays	1710	per test	33.00
5. Nuclear Gauge Rental (trip)	1711	per trip	10.00
C. Full-Time Density Test Monitoring			
1. Engineering Technician, per 40-hour week	Labor	quoted per project	-
2. Sr. Engineering Technician, per 40-hour week	Labor	quoted per project	-
3. Nuclear Gauge Rental	3100	per day	50.00
D. Compaction Laboratory Testing			
1. Standard Proctor, 4O (Method A)	1715	per test	115.00
2. Standard Proctor, 4O (Method B)	1716	per test	115.00
3. Standard Proctor, 6O (Method C)	1717	per test	125.00
4. Modified Proctor, 4O (Method A)	1720	per test	125.00
5. Modified Proctor, 6O (Method B)	1721	per test	130.00
6. Modified Proctor, 6O (Method C, D)	1722	per test	135.00
7. Mn/DOT Proctor (AASHTO T95)	1732	per test	120.00

Description	Cost Code	Unit	Rate
8. Preparation of Proctor Sample	1723	per test	60.00
9. One Point Proctor Check	1725	per test	60.00
10. Relative Density of Cohesionless Soils	1730	per test	104.00
11. Mn/DOT Relative Moisture	1735	per test	40.00
VII. Expenses			
A. Direct Project Expenses: includes out-of-town per diem; plowing and towing; special equipment, materials and supplies; special travel, transportation and freight; subcontracted services, and miscellaneous costs	--	-	Cost + 15%
B. Equipment Replacement (when abandonment is more feasible than recovery)	--	-	Cost
C. Equipment Recovery (when required by regulatory agencies or project specifications)	--	-	Cost + 15%

MATERIALS TESTING/SERVICES

VIII. Construction Materials			
A. Aggregates			
1. Sieve Analysis			
a) Coarse, Unwashed, (ASTM:C136)	1800	per test	$50.00
b) Fine	1801	per test	88.00
c) #200 Wash (ASTM:C117)	1802	per test	50.00
2. Sieve Analysis, Coarse and Fine	1805	per test	88.00
3. Clay Lumps (ASTM C142)			
a) Fine Aggregate	1810	per test	57.00
b) Coarse Aggregate	1811	per test	85.00
4. Organic Impurities (ASTM:C40)	1815	per test	67.00
5 Specific Gravity and Absorption			
a) Coarse (ASTM:C127)	1820	per test	70.00
b) Fine (ASTM:C128)	1821	per test	92.00
c) Lightweight (ACI 211.2)	1964	per test	145.00
6. Lightweight Particles Content (ASTM:C123)			
a) Coarse Aggregate @ 2.0	1825	per test	120.00
b) Fine Aggregate @ 2.0	1826	per test	80.00
c) Coarse Aggregate @ 2.4	1827	per test	145.00
d) Fine Aggregate @ 2.4	1828	per test	130.00
7. Unit Weight (ASTM:C29) (Loose or Rodded)			
a) Fine Aggregate	1830	per test	55.00
b) Coarse Aggregate or Pit Run	1831	per test	55.00
8. Abrasion-Los Angeles Rattler (ASTM:C131) (Gradation extra)	1835	per test	95.00
Abrasion-Los Angeles Rattler (ASTM:C535)	1836	per test	120.00
9. Sulfate Soundness, sodium or magnesium (ASTM:C88)			
a) 5 Cycles on Two Pans	1840	per test	210.00
b) 5 Cycles on Three Pans	1841	per test	225.00
c) 5 Cycles on Four Pans	1842	per test	255.00
d) 5 Cycles on Five Pans	1843	per test	290.00
10. Chemical Analysis of Rock	1845	quoted per project	-
11. Insoluble Residue	1833	per test	240.00
12. Total Spall (Visual, Mn/DOT 1209)	1855	per test	170.00
13. Aggregate Crushing	Labor	per hour	110.00

Description	Cost Code	Unit	Rate
14. Aggregate Freeze-Thaw,			
a AASHTO T103-Procedure A	1860	per test	425.00
b. AASHTO T103 Procedure B, C	1861	per test	695.00
c. Stone Slabs	1862	per set	550.00
15. Aggregate Correction Factor (ASTM:C231) (Sampling Extra)	1865	per test	155.00
16. Flat and Elongated Particles (ASTM:D4791)	1870	per test	165.00
17. Petrographic Analysis (ASTM:C295)			
a) Coarse Aggregate (8 or less fractions)	APS	per test	1000-1500
b) Fine Aggregate (8 or less fractions)	APS	per test	1000-1500
c) Multiple Lithology (gravel)	APS	per test	1500.00
c) Visual Only	APS	per test	400.00
d) Rock	APS	quoted per project	-
18. Fine Aggregate Angularity ASTM:C1252			
a) Method A	1875	per test	115.00
b) Method B	1876	per test	115.00
c) Method C	1877	per test	80.00
19. Coarse Aggregate Angularity	1878	per test	120.00
20. Sand Equivalent of Fine Aggregate	1882	per test	120.00
21. Organic Content	1883	per test	70.00
B. Cement/Pozzolan Testing			
1. Cement Physical Tests	1885	per series	680.00
a) Compressive Strength, cubes extra (ASTM:C109)	1886	per test	240.00
b) Fineness (ASTM:C204)	1887	per test	70.00
c) Soundness (ASTM:C151)	1888	per test	190.00
d) Air Content (ASTM:C185)	1889	per test	140.00
e) Set Time (ASTM:C266 or C191)	1890	per test	190.00
f) Early Stiffening	1891	per test	85.00
2. Cement Chemical Analysis (ASTM:C114)	1895	per sample	400.00
3. Fly Ash Physical Tests	1900	per series	680.00
a) Fineness (ASTM:C311)	1901	per test	70.00
b) Strength Activity Index (ASTM:C311)	1902	per test	285.00
c) Water Requirement (ASTM:C311)	1903	per test	157.00
d) Soundness (ASTM:C311)	1904	per test	190.00
e) Specific Gravity (ASTM:C311)	1905	per test	115.00
f) Foam Index	1906	per test	38.00
g) Grab Sample Tests	1907	per test	290.00
h) Moisture Content	1911	per test	25.00
i) Loss on Ignition	1912	per test	52.00
j) Available Alkalies	1913	per test	310.00
4. Fly Ash Chemical Analysis (ASTM:C311)	1910	per sample	400.00
5. Potential Reactivity of Aggregate			
a) Concrete Prism Method (ASTM:C1293)			
1) Fine Aggregate	1915	per test	1000.00
2) Coarse Aggregate	1916	per test	1000.00
b) Cementitious Combinations Method (ASTM:C1567)			
1) Fine Aggregate	1917	per test	565.00
2) Coarse Aggregate	1918	per test	624.00
3) Aggregate Combination	1914	per test	900.00

Description	Cost Code	Unit	Rate
c) Chemical Method (ASTM:C289)			
1) Fine Aggregate	1920	per test	624.00
2) Coarse Aggregate	1921	per test	624.00
d) Mortar Bar Expansion (ASTM:C227)			
1) Fine Aggregate	1925	per test	570.00
2) Coarse Aggregate	1926	per test	625.00
e) Mortar Bar Expansion (ASTM:C1260)			
1) Fine Aggregate	1930	per test	615.00
2) Coarse Aggregate	1931	per test	674.00
3) Fine Aggregate, as received	1932	per test	515.00
4) Aggregate Combinations	1933	per test	950.00
6. Concrete Shrinkage			
a) ASTM:C157 (66 week test) – batching extra	1935	Set of 3	495.00
b) ASTM:C157 (35 day test) – batching extra	1936	Set of 3	345.00
7. Concrete Scaling Resistance (ASTM:C672)	1940	Set of 2	650.00
8. Concrete Modulus of Elasticity (ASTM:C469)	1945	Set of 2	500.00
C. Plastic Concrete			
1. Calculated Concrete Mix Designs per ACI 211			
a) Initial Mix Design-Regular Weight	1950	per mix	80.00
b) Each Additional Regular Weight Mix Beyond Initial	1951	per mix	60.00
c) Lightweight	1952	per mix	80.00
d) Heavyweight	1953	per mix	120.00
2. Trial Mix			
a) Batch Mixed on Laboratory Received Materials	1955	per mix	360.00
b) Test Cylinder Casting, Curing and Testing	1956	per test	32.00
c) Test Beam (6O x 6O x 30O) Casting, Curing and Testing	1957	per test	72.00
d) Time of Set (ASTM:C403)			
1) Initial 6 hours	1958	per set	167.00
2) After 6 hours	Labor	per hour	71.00
3. Observation/Testing of Project-Site Concrete Placements or Concrete Production	Labor	See I and II	-
4. Plastic Cylinder Molds			
a) 4x8	1960	per case of 36	42.00
b) 6x12	1962	per case of 20	42.00
c) Individual Mold	1961	per mold	3.00
D. Hardened Portland Cement Concrete			
1. Testing of Standard 6O x 12O Cylinders (ASTM:C39)			
a) Regular Strength Concrete	1965	per test	22.00
b) High Strength Concrete Accelerated Curing & Testing	1966	per test	45.00
c) Preparation of cylinder ends (if required)	1967	per cylinder	7.00
d) Lapping (grinding) of cylinder ends (if required)	1968	per cylinder	50.00
2. Curing and Handling of Non-Tested Cylinders	1970	per cylinder	20.00
3. Unit Weight of Lightweight Concrete (ASTM:C567)	1971	per set	100.00
4. Cylinder Pickups/Delivery	1975	per visit	65.00
5. Cast-In-Place-Punch-Out Cylinders (CIPPOC's)			
a) CIPPOC's Molds	1976	per mold	35.00
b) CIPPOC's Compressive Strength Tests (ASTM:C873)	1977	per test	55.00
6. Testing of Standard 6O x 6O x 30O Concrete Beam			

Description	Cost Code	Unit	Rate
(ASTM:C78 and C293)			
a) Each Test	1980	per test	50.00
b) Beam Mold Rental (Includes Clean-up)	1981	per mold	40.00
7. Splitting Tensile Strength Test of Standard Cylinder (ASTM:C496)			
a) Initial Test	1985	per test	70.00
b) Each Additional Test Performed at same time	1986	per test	40.00
8. Absorption on Standard Cylinders or Cores (24-hour immersion), (ASTM:C642)	1990	per test	55.00
9. Freeze-thaw Test of Concrete (ASTM:C666, Method A)	1995	per test	1170.00
	1996	per sample	390.00
10. Sampling of Hardened Concrete by Coring			
a) Portable Coring Equipment (personnel extra)	2000	per hour	35.00
b) Excessive bit wear (no charge for normal bit wear)	2002	per inch	5.00
11. Density and Compression Testing of Drilled Core (ASTM:C42)			
a) Density or Absorption	2005	per test	40.00
b) Density and Absorption	2006	per test	60.00
c) Compression Test	2007	per test	65.00
d) Curing in Autoclave	2008	per set	75.50
e) Saw Trimming of Core Ends	2009	per core	16.00
12. Chloride Ion Content			
a) Acid Soluble (AASHTO T:260, Procedure C) Cores	APS	per sample	51.00
b) Acid Soluble (AASHTO T:260, Procedure C) Powder	APS	per sample	43.00
c) Water Soluble (ASTM C1218)	APS	per sample	130.00
13. Rapid Chloride Ion Permeability (AASHTO T:277 or ATM C:1202)	APS	per set of 3	525.00
14. Air Content By Linear Traverse Method (ASTM:C457)	2013	per test	465.00
15. Petrographic Analysis (ASTM:C856)	APS	per test	1050.00
16. Shotcrete Panel Coring (ASTM:C1140) (6 cores)	2015	per panel	140.00
17. Shotcrete Core Compression Test	2020	per core	30.00
18 Floor Flatness (ASTM:E1155)	2025	quoted per project	-
a) Profilograph Rental	3225	per day	145.00
19. Moisture Emission Testing		See I and II	
a) Installation and Labor Analysis	2032	per kit	40.00
b) Moisture Emission Kit	APS	per test	465.00
20. Water/Cement Ratio Documentation using Petrographic Thin Section			
21. Fly Ash Documentation			
a) Qualitative	APS	per test	395.00
b) Quantitative	APS	per test	495.00
22. X-ray Diffraction Analysis	APS	per sample	295.00
23. Scanning Electron Microscopic Photography with Elemental Energy Dispersive Analysis	APS	per hour	295.00
24. Air Dry Unit Weight (Set of 3)	2034	per set	225.00
25. Oven Dry Unit Weight (Set of 3)	2036	per set	290.00
E. Masonry/Clay and Concrete Units			
1. Aggregate for Masonry Mortar (Gradation and Quality), (ASTM:C144)	2035	per sample	500.00
2. Masonry Cement, Physical Tests (ASTM:C91)	2040	quoted per project	-
3. Mortar Mix Design (ASTM:C270) – cubes extra	2045	per design	345.00

Description	Cost Code	Unit	Rate
4. Mortar Tensile Test (ASTM:C190)	2050	quoted per project	-
5. Compressive Strength of Hardened Mortar/Grout			
a) 2O x 4O Cylinders	2055	per test	20.00
b) 2O mortar cubes	2056	per cube	20.00
c) Grout prisms (ASTM:C1019)	2057	per sample	47.00
d) Grout Cubes	2058	per cube	20.00
e) Plastic cylinder molds	2059	per mold	3.00
6. Gypcrete			
a) Condition, Density, and Compression	2060	quoted per project	-
b) Expansion, NC	2061	quoted per project	-
c) Complete Tests	2062	quoted per project	-
7 Retaining Wall Units			
a) Absorption-Compression	2066	per set	265.00
b) Compression Only	2068	per set	190.00
c) Freeze/Thaw (ASTM:C1262) (up to 150 cycles)	2069	per set	700.00
8. Block Efflorescence	2071	per test	150.00
9. Compression Test of Hollow Concrete Masonry Units (ASTM:C140) Set of 3 Block	2075	per set	155.00
10. Moisture Test of Hollow Concrete Masonry Units, Set of 3 Blocks	2080	per set	100.00
a) Net Area Calculation of Block	2081	per set	100.00
11. Complete Test of Concrete Masonry Units (Measurements, Compressive Strength, Absorption, Moisture, Density, Unit Weight and Voids) (ASTM:C90)	2085	set of 6	195.00
a) Fire rating	2086	per set	65.00
12. Drying Shrinkage of Concrete Masonry Units (ASTM:C426) Set of 3 Blocks	2090	per set	435.00
a) Duggan - Method A	2092	per set	415.00
13. Petrographic Analysis of Mortar (ASTM:C1324)	APS	per test	1050.00
14. Block Prism Compression			
a) Laboratory Fabrication/Testing of 3 High Prisms Including Flow, Mortar Compressive Strength	2095	per set	450.00
b) Field Fabricated, 8O and 10O	2096	each	100.00
c) Field Fabricated, 12O	2097	each	115.00
d) Field Fabricated, 16O	2098	each	145.00
e) Surcharge if Cells Filled with Grout/Concrete	2099	each	75.00
15. Concrete Paving Units, Absorption, Density, Compression, and Dimensions (ASTM:C936) (does not include freeze-thaw)	2105	set of 6	195.00
a) Concrete Paving Unit, Compression Only	2004	set of 3	95.00
16. Complete Brick Test (ASTM:C67) (does not include freeze-thaw)	2110	set of 5	375.00
17. F/T Concrete Brick Testing ASTM:C1262	2111	set of 3	475.00
18. Concrete Brick Testing ASTM:C55	2112	set of 6	165.00
19. Brick Efflorescence	2115	set of 5	110.00
20. Brick Absorption and IRA	2116	each	78.00
21. Brick Compression	2120	set of 5	120.00
22. Brick Modulus of Rupture	2125	set of 5	140.00
23. Brick Autoclave Expansion	2130	each	140.00
24. Brick Freezing and Thawing Test (ASTM:C67,	2135	set of 5	500.00

Description	Cost Code	Unit	Rate
Method B)			
25. Brick Warpage and Dimensional Measurement	2140	set of 10	245.00
26. Measurement of Masonry Flexural Bond Strength (ASTM:C1072)	2145	6 high prism	300.00
27. Measurement of Masonry Flexural Bond Strength			
a) ASTM:C952	2150	per set of 5	400.00
b) ASTM:E518	2151	per test	125.00
28. Efflorescence Test of Mortar, Cement, Lime & Sand	2155	each	352.00
29. Natural Building Stone (Sample Preparation Extra)			
a) Compressive Strength (ASTM:C170)	2160	each	25.00
b) Flexural Strength (ASTM:C880)	2161	each	60.00
c) Modulus of Rupture (ASTM:C99)	2162	each	60.00
d) Absorption, Bulk Specific Gravity and Density (ASTM:C97)	2163	each	30.00
e) Skid Resistance (ASTM:E303)	2164	quoted per project	-
f) Abrasion Resistance (ASTM:C241)	2165	quoted per project	-
g) Water Transmission (NBS RP1320)	2166	quoted per project	-
h) Sample Preparation (with Diamond Saw)	2167	per hour	67.00
i) Petrographic Analysis (ASTM:C295)		quoted per project	-
30. Reinforced Concrete Pipe Crushing Strength (ASTM:C76, C361)	2170	quoted per project	-
31. Non-reinforced Concrete and Clay Pipe Crushing Strength with Absorption (ASTM:C14, C700)	2175	quoted per project	-
32. Clay Pipe Joint - Shear and Deflection (ASTM:C425)	2180	quoted per project	-
33. Draintile Crushing Strength and Absorption (Concrete and Clay) (ASTM:C4, C412)	2185	quoted per project	-
F. Riprap Testing			
1. Absorption and Specific Gravity (ASTM:C127)	APS	per test	115.00
2. Resistance to Wetting and Drying (CRD-C 169)	APS	per test	450.00
3. Resistance to Freezing and Thawing (CRD-C 144)	APS	per test	650.00
G. Fireproofing			
1. Thickness Tests at Project Site	Labor	See I and II	-
2. Density Tests (f.o.b. laboratory)	2195	per test	50.00
3. Bond Tests	2200	quoted per project	-
H. Bituminous Materials			
1. Laboratory Mix Design (Mn/DOT Method)	2205	quoted per project	-
2. Marshall Properties (ASTM:D6926 & ASTM:D2041)	2204	per test	167.00
3. Marshall Stability and Flow (set of 3) (ASTM:D1559)	2220	per test	57.00
4. Pavement Density and Thickness (ASTM:D2726)	2225	per core	42.00
5. Extraction Only (ASTM:D2172)	2230	per test	155.00
6. Extraction/Gradation (ASTM:D2172 Method E-11, Mn/DOT Modified C136 and C117)	2235	per test	198.00
7. 2360 Mn/DOT Companion Test (ASTM:D2172 Method E-11, Mn/DOT Modified C136 and C117), Fine Aggregate Angularity (AASHTO T 304 Method A, Mn/DOT 1206.5), Percent Crushed Particles (Mn/DOT 1214.8)	2237	per test	280.00
8. Moisture Content of Bituminous Material (RAP) (ASTM:D1461)	2240	per test	200.00
9. Saw Trimming of Core Lifts	2255	per core	20.00

Description	Cost Code	Unit	Rate
10. Mix Design Verification	2260	per design	220.00
11. Field Process Control Testing (QM and/or QA)	Labor	See I and II	-
12. Superpave Level 1 Mix Design (AASHTO PP28-95, TP4-93)	2265	per design	3100.00
13. Mn/DOT Gyratory Mix Properties	2270	per test	500.00
Gyratory Density (AASHTO T312) Mn/DOT Modified, Rice Specific Gravity (ASTM:D2041) Extraction/Gradation (ASTM:D2172 Method E-11),Mn/DOT Modified C136 and C117, Fine Aggregate Angularity (AASHTO T 304, Method A, Mn/DOT 1206.5), Percent Crushed Particles (Mn/DOT 1214.8)			
14. Fabricate TSR Specimen			
a) Marshall	2275	per test	57.00
b) Gyratory	2276	per test	78.00
15. TSR Test	2280	per test	17.00
16. Cold In-place Recycling (CIR) Mix Design	2277	quoted per project	-
17. Full-Depth Reclamation (FDR) Mix Design	2278	quoted per project	-
18. Mobile Construction Materials Laboratory	2279	per day	180.00
19. Seal Coat Compatibility	1709	per test	125.00
20. Seal Coat Design	1708	per design	550.00
I. Vibration/Crack Monitoring			
1. Engineering Services (not including seismograph rental or cost of crack gauges)	Labor	See I and II	-
2. Seismograph Equipment	3230	per day	110.00
3. Crack Gauge (one time use)	3251	per gauge	36.00
J. Nondestructuve Testing			
1. Bolted Connection Observations	Labor	See I and II	-
2. Visual Weld Observations	Labor	See I and II	-
3. Magnetic Particle Testing	Labor	See I and II	-
4. Ultrasonic Testing	Labor	See I and II	-
5. Dye Penetrant Testing	Labor	See I and II	-
6. Radiographic Testing	Labor	See I and II	-
7. Electromagnetic Scan (Profometer)	Labor	See I and II	-
8. Welder Qualification (Radiographic Evaluation)	--	per coupon	85.00
9. Field Radiography (Two-Person Crew)	--	per hour	123.00
10. Film			
a) 4.5" x 10"	3216	each	6.00
b) 4.5" x 17"	3217	each	7.00
c) 7" x 17"	3218	each	8.50
d) 14" x 17"	3219	each	12.50
11. PMI Analyzer	1607	per day	1000.00
12. Sharpie Impact Test	1608	each	200.00
K. Sound Monitoring			
1. Engineering Services (equipment rental extra)	--	See I and II	-
2. Sound Level Meter Rental	3240	per day	100.00
L. Ground Penetrating Radar (GPR)			
Full and Half Day rates include operator, equipment, & report excluding travel outside the Mpls/St. Paul Metro Area			
1. Full Day	3091	per day	1550.00
2. Half Day	3092	per half day	1000.00
3. Equipment Only	3093	per day	350.00

Description	Cost Code	Unit	Rate
M. Equipment Rental (in addition to personnel time)			
1. Schmidt Rebound Hammer	3200	per day	65.00
2. Ultrasonic Pulse Velocity	3205	per day	130.00
3. Rebar Locator	3210	per day	125.00
4. Copper Half Cell	3215	per day	70.00
5. Video Camera	3220	per day	57.00
6. Impact - Echo	3221	per day	130.00
7. Maturity Meter	3226	per day	55.00
8. Pressure Meter Calibration	2023	each	66.00
9. Power Tool	3227	per day	55.00
10. Air Infiltration/Water Penetration Equipment	3383	per day	210.00
11. Load Cell Readout	3228	per day	125.00
IX. Other Services and Rentals			
A. Report Reproduction			
1. Minimum (copying additional)	--	per report	50.00
2. Copying	--	per sheet	0.35
B. Computer and Software Rental (personnel time extra)			
1. AutoCAD	--	per hour	25.00
2. Auto CAD Plotting	3071	per sq. ft.	1.00
3. Air Dispersion Modeling	--	per hour	25.00
4. Ground Water Modeling	--	per hour	25.00
C. Digital Camera/Photographs			
1. Camera Rental	3016	per day	25.00
2. Color Photographs	3004	per page	1.50
D. Direct Project Expenses	--	-	Cost +15%

A minimum charge of $100.00 per project may be assessed to cover administrative costs.